

REMARKS

By this amendment, claims 8 and 9 are cancelled, claims 1, 3, 4, 6, 10, 12 and 15-18 are amended, and claims 20-28 have been newly added. Claims 1-7 and 9-28 are currently pending in the application, of which claim 1, 12, 20 and 25 are independent claims.

In view of the above amendments and the following Remarks, Applicant respectfully requests reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

Rejections Under 35 U.S.C. §112

In the Office Action mailed November 28, 2003, claims 1-19 have been rejected under 35 U.S.C. §112, second paragraph for indefiniteness. The Examiner asserted that two different and independent structures are recited in independent claims 1 and 12 and it is unclear what final structure of the instant invention is being claimed. Also, in the Advisory Action mailed on March 11, 2004, the Examiner stated “each independent claim should only cover one invention”. This rejection is respectfully traversed.

In this response, independent claims 1 and 12 are amended to delete “or extended from the gate line of the adjoining pixel region on the previous row and overlaps the pixel electrode of the corresponding pixel region” and “or extended from the gate line on the previous row and overlapping the pixel electrode of the respective pixel region”, respectively.

Thus, claims 1 and 12 clearly recite a single structure. Accordingly, Applicant respectfully requests that the rejection under 35 U.S.C. §112, second paragraph over claims 1-19 be withdrawn.

Rejections Under 35 U.S.C. §103

In the Office Action, claims 1-6, 9-13 and 15-19 have been rejected under 35 U.S.C. §103(a) for being unpatentable over U. S. Patent No. 6,476,881 issued to Ozaki, *et al.* (“Ozaki”) in view of U. S. Patent No. 5,182,661 issued to Ikeda, *et al.* (“Ikeda”). This rejection is respectfully traversed.

Independent claim 1 recites “wherein each repair member is extended from the pixel electrode of the corresponding pixel region and overlaps a gate line of an adjoining pixel region on a previous rows”. Independent claim 12 has very similar limitations.

The Examiner admitted that Ozaki fails to disclose or suggest this claimed feature (Office Action, page 3). Regarding this missing feature, the Examiner stated “Ikeda et al. teaches (e.g., Figure 3) to extend the pixel electrode 22 to overlap the gate line 10 of the previous row and to extend the gate line 62 to overlap the pixel electrode 60 ...” (Office Action, page 3). Based on this, the Examiner asserted “it would have been obvious ... to overlap the gate line of the previous row and to extend the gate line to overlap the pixel electrode ...” (Office Action, page 3). This assertion is respectfully disagreed with.

First, it is respectfully submitted that the asserted motivation for the combination is flawed. The secondary reference to Ikeda is directed to a storage capacitance structure, which increases the storage capacitance applied to the pixel electrode. To achieve this goal, the pixel electrode 22 is configure to overlap the gate bus line 10, and *the first storage capacitor electrode 60 and the second storage capacitor 62 are connected to the pixel electrode 22 and the gate bus line 10*, respectively, as shown in Fig. 3B.

The Examiner stated *as if* flicker and/or cross talk are/is prevented simply by overlapping the pixel electrode and the gate line of the previous row . It is submitted that, in Ikeda, there is no

explicit teaching or implicit suggestion that the intended purpose of preventing flicker and/or cross talk are achieved *without forming the first storage capacitor electrode 60 and the second storage capacitor 62*.

Rather, Ikeda clearly recites “The above mentioned storage capacitor structure (Fig. 3B) could have a capacitance which is *about twice as large as that of the conventional one* (as shown in Figs. 2A and 2B) having the single storage electrode of the same area as that of the second storage electrode of the above mentioned storage capacitor structure” (column 5, lines 41-46).

Thus, it is submitted that the Examiner’s assumption that the storage capacitance structure shown in Fig. 3 of Ikeda *without the first storage capacitor electrode 60 and the second storage capacitor 62* prevents the flicker and/or cross talk has no factual basis. Without the first storage capacitor electrode 60 and the second storage capacitor 62, the structure would be basically the same with the structure shown in Fig. 2A, which shows a prior art structure that suffers flicker and/or cross talk.

For this reason, the asserted motivation of preventing the flicker and/or cross talk by selectively adopting the storage capacitance structure shown in Fig. 3 of Ikeda without the first storage capacitor electrode 60 and the second storage capacitor 62 is *flawed*. Thus, it is submitted that the asserted motivation for the combination is flawed.

Second, it is submitted that there is no motivation for the asserted combination. As previously mentioned, Ikeda is directed to providing sufficient storage capacitance to the pixel electrode. Fig. 4 of the primary reference to Ozaki discloses a storage capacitance bus 23 provided to each pixel region to apply sufficient storage capacitance to each pixel electrode.

If the structure shown in Fig. 4 of Ozaki is modified such that the storage capacitance structure shown in Fig. 3B of Ikeda is formed *in addition to the already existing the storage*

capacitance bus 23, such combination would result in an unnecessary and redundant storage capacitance structure and unnecessarily complicate the manufacturing process (manufacturing time/costs and wasted space).

The Office Action lacks any logical reason why one in ordinary skill would have been motivated to modify to add the storage capacitance structure shown in Figs. 3A and 3B of Ikeda to the pixel structure shown in Figs. 4-10 of Ozaki. Thus, it is submitted that there is no motivation for the asserted combination.

Third, it is submitted that the asserted combination appears to be established by hindsight vision. As previously mentioned, selective adoption of the gate bus line 10 overlapping the pixel electrode 22 (without the first and second storage capacitor electrodes 60, 62) in Ikeda does not prevent flicker and/or cross talk.

Nevertheless, the Examiner concluded that Ozaki can be modified to selectively adopt the gate bus line 10 overlapping the pixel electrode 22 (without the first and second storage capacitor electrodes 60, 62) in Ikeda, although there is already a storage capacitance line 23 in Fig. 4 of Ozaki.

As considering all these facts, it appears that the Examiner viewed Ozaki and Ikeda with the benefit of hindsight vision afforded by the claimed invention. However, the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. *Hodosh v. Block Drug Co.*, 786 F.2d 1136, 1143 n.5, 229 USPQ182, 187 n.5 (Fed. Cir. 1986).

For these reasons, it is submitted that independent claims 1 and 12 are patentable over Ozaki and Ikeda. Claims 2-6, 9-11, 13 and 15-19 that are dependent from claims 1 and 12 would

be also patentable at least for the same reasons. Accordingly, Applicant respectfully requests that the rejection over claims 1-6, 9-13 and 15-19 be withdrawn.

Claims 7 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ozaki in view of Ikeda, and further in view of U. S. Patent No. 5,909,263 to Song (“Song”). This rejection is respectfully traversed.

Claims 7 and 14 are dependent from independent claims 1 and 12, respectively. As previously mentioned, claims 1 and 12 are believed to be patentable over Ozaki and Ikeda. For example, Ozaki and Ikeda shows no motivation to be combined to each other.

Song is directed to an interconnection structure between a drain electrode 240 and an ITO pixel electrode 260. The Examiner asserted that an amorphous silicon layer 220 in Fig. 4 of Song corresponds to the claimed repair member because the drain structure of Song “can reduce defects in pixel electrodes adjacent thereto” (column 3, lines 5-8).

First, it is not understood how come an element that can reduce defect can be the claimed repair member. Applicant believes that repairing is different from reducing defects.

Second, Song is directed to an interconnection structure between the drain electrode 240 and the ITO pixel electrode 260. Song does not cure the deficiency from Ozaki and Ikeda. Particularly, Song does not provide any motivation to modify the pixel structure of Ozaki such that the feature of pixel electrode 22 of Ikeda overlapping the gate bus line 10 can be used in Ozaki while the first and second storage capacitor electrodes 60 and 62 are excluded.

Thus, it is submitted that independent claims 1 and 12 are patentable over Ozaki, Ikeda and Song. Claims 7 and 14 that are dependent from claims 1 and 12, respectively, would be also

patentable at least for the same reason. Accordingly, Applicant respectfully requests that the rejection over claims 7 and 14 be withdrawn.

Other Matters

In this response, claims 20-28 are newly added to cover the structural limitations that are deleted from claims 1-19.

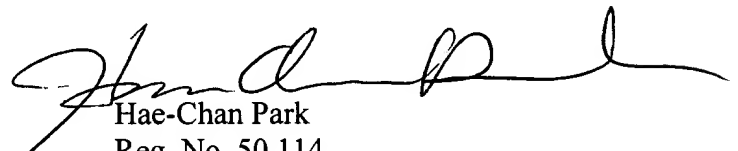
CONCLUSION

Applicant believes that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicant respectfully submits that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicant's undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,



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